BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
Amendment of Part 15 of the Commission's Rules to Reduce the Spectral Occupancy of Frequency Hopping Spread Spectrum Devices	)	Docket No. _____

PETITION FOR RULEMAKING

SpectraLink Corporation ("SpectraLink"), pursuant to Section 1.401(b) of the Commission's Rules, 47 C.F.R. § 1.401(b) (1993), by its counsel, hereby petitions the Commission to initiate a rulemaking proceeding to amend Section 15.247(a)(1)(i)[1/] and Section 15.247(b)[2/] of the Commission's Rules to reduce the spectral occupancy of frequency-hopping spread spectrum devices operating in the 902-928 MHz band from a maximum of nearly 26 MHz to approximately 13 MHz. Specifically, SpectraLink proposes that the Commission amend Part 15 of its rules as follows:

Section 15.247(a)(1)(i)

> Frequency hopping systems operating in the 902-928 MHz band shall use at least **25** hopping frequencies . . . 47 C.F.R. § 15.247(a)(1)(i)(1993).

Section 15.247(b)

> The maximum peak output power of the transmitter shall not exceed 1 Watt. **For those frequency hopping systems that use fewer than 50**

1/ Section 15.247 (a)(1)(i) of the Commission's Rules provides in relevant part that "frequency hopping systems operating in the 902-928 MHz band shall use at least 50 hopping frequencies." 47 C.F.R. § 15.247(a)(1)(i) (1993).

2/ Section 15.247(b) of the Commission's Rules provides in relevant part "the maximum peak output power of the transmitter shall not exceed 1 Watt."

and at least 25 hopping frequencies, the maximum peak output power shall not exceed 500 mW . . . 47 C.F.R. § 15.247(b)(1993).

Further, in light of the Commission's proposal in PR Docket 93-61 to allocate substantial spectrum in the 902-928 MHz band for the exclusive, primary use of wideband multilateration automatic vehicle/location monitoring systems ("AVM/LMS"), SpectraLink proposes that the Commission permit 25-channel, frequency-hopping spread spectrum Part 15 devices to use non-contiguous hopping frequencies. SpectraLink believes fervently that these amendments are in the public interest because they will:

- reduce spectral occupancy of Part 15 frequency-hopping spread spectrum devices to maximize the number of deployed Part 15 devices and AVM/LMS users that can coexist in the 902-928 MHz band;
- accommodate future deployment of frequency-hopping spread spectrum Part 15 products in the 902-928 MHz band; and
- maximize spectrum efficiency.

I. BACKGROUND AND STATEMENT OF INTEREST

SpectraLink was founded in 1989 to meet the existing market demand for a communications product that could provide wireless telephone communications as an adjunct to the business community's existing PBX and Centrex telephone systems. From its inception, SpectraLink has invested substantial amounts of human and financial resources designing, manufacturing, and marketing the SpectraLink Pocket Communications System. SpectraLink's Pocket Communications System is an indoor micro-cellular telephone system designed to function as an extension to an individual's desk phone. The Pocket Communications System is a spread spectrum, frequency-hopping device operating in compliance with Section 15.247 of the Commission's Rules.

Because the Pocket Communications System conforms with the FCC's Part 15 Rules for unlicensed use, it meets the business community's market demand for uncomplicated, reasonably priced, reliable, high-quality wireless telephony today. SpectraLink has shipped over 8000 handsets to over 500 locations over the past two and one-half years. These locations include hospitals, retail establishments, and Fortune 500 companies.

SpectraLink is an active member of numerous wireless telephony industry associations including UTAM, TIA/TR41.6 and the WINForum. SpectraLink has been an Associate member of UTAM since 1993 and currently sits on the UTAM Board of Trustees and the Board of Directors of WINForum. With a view to the future, SpectraLink is currently developing a similar wireless telephone product for the recently allocated isochronous (voice) segment of the unlicensed PCS ("U-PCS") band. Nevertheless, SpectraLink will continue to manufacture, market, and service its Part 15 Pocket Communications System as a viable, complementary offering to future U-PCS products.

The Commission's original Notice of Proposed Rulemaking in the AVM/LMS proceeding[3/] specifically recognized the undisputed utility of Part 15 devices to the U.S. commercial and consumer markets. SpectraLink recognizes the utility of AVM/LMS and is not submitting this petition as a means to object to the allocation of spectrum to or the development of AVM/LMS. Nevertheless, because of its strong and direct interest in preserving access to the 902-928 MHz band for Part 15 frequency-hopping spread spectrum devices, SpectraLink has been actively involved in the AVM/LMS proceeding[4/] to ensure that the Commission fully

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3/ *Notice of Proposed Rulemaking*, 8 FCC Rcd 2502 (1993).

4/ *See* Comments of SpectraLink, PR Docket No. 93-61 (filed June 29, 1993); Limited *Ex Parte* Comments, PR Docket No. 93-61 (filed September 21, 1994); Notice of *Ex Parte* Presentation, PR Docket No. 93-61 (filed November 2, 1993).

considers every proposal that would provide frequency-hopping spread spectrum Part 15 devices maximum access to the 902-928 MHz band. Consistent with these efforts in the AVM/LMS proceeding, SpectraLink proposes these rule amendments as an additional measure that will, at a minimum, preserve Part 15 access to the 902-928 MHz band and facilitate peaceful coexistence with wideband AVM/LMS multilateration systems.

II. THE COMMISSION'S COMPROMISE PROPOSAL

In an effort to achieve an industry consensus on a band plan that would accommodate both Part 15 manufacturers and LMS operators in the available spectrum, the Commission proposed a number of compromises, the last of which would adopt the following band plan: 902-904 MHz (2 MHz) shared use for non-multilateration systems on a licensed basis; 904-909.75 MHz (5.75 MHz) reserved for licensed use by multilateration systems exclusively; 909.75-919.75 MHz (10 MHz) reserved for shared use of non-multilateration systems; 919.75-921.75 MHz (2 MHz) reserved for licensed multilateration or Part 15 use; 921.75-927.25 MHz (5.5 MHz) reserved for multilateration systems exclusively; and 927.25-928 (.75 MHz) forward link for wideband multilateration systems. The Commission has also proposed harmful interference thresholds for Part 15 devices operating in spectrum allocated exclusively for multilateration AVM/LMS use. The presumption of harmful interference would apply to (1) Part 15 devices with antennas greater than 5m above ground level, (2) 1 watt Part 15.247 devices with greater than 6 dBi of antenna gain, or (3) Part 15.245 devices. A presumption of non-interference would run with all other Part 15 devices. SpectraLink believes strongly that

this compromise proposal is sound, in the public interest, and should be adopted.[5/] Nonetheless, as discussed below, if this band plan is adopted, and frequency-hopping, spread spectrum devices such as the Pocket Communications System are required to continue using a minimum of 50 hopping frequencies, operation of these devices in the 902-928 MHz band will be severely restricted and, in many instances, wholly precluded. Given the widespread deployment of devices such as SpectraLink's Pocket Communications System, the Commission should consider strongly all options that would facilitate coexistence between AVM/LMS and Part 15 devices and ensure the continued viability of deployed Part 15 devices.

III. SPECTRALINK'S PROPOSED AMENDMENT OF SECTION 15.247(a)(1)(i) and (b) OF THE COMMISSION'S RULES WILL FACILITATE PEACEFUL COEXISTENCE WITHIN THE 902-928 MHZ BAND

Section 15.247(a)(1)(i) currently requires frequency-hopping systems operating in the 902-928 MHz band "to use at least 50 hopping frequencies." Given that a frequency-hopping system is designed to take advantage of the maximum allowed channel bandwidth of 500 kHz, this system must necessarily use nearly 26 MHz of spectrum to meet the minimum 50-channel hopping requirement. If, as proposed, 6-12 MHz of spectrum are allocated for the exclusive use of wideband multilateration AVM/LMS, SpectraLink believes that in using hopping frequencies over the entire 902-928 MHz band, a substantial number of Part 15 frequency-hopping devices will necessarily interfere with the highly sensitive wideband multilateration AVM/LMS. Under these circumstances, the traditional Part 15 rules dictate that the frequency-hopping device must cease operations. Unlike many narrowband spread spectrum Part 15 system manufacturers that

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[5/] *See* Limited Ex Parte Comments of SpectraLink Corporation, PR Docket No. 93-61 (filed September 21, 1994).

could simply re-tune their deployed systems, wide-band frequency-hopping system manufacturers, like SpectraLink, have no alternatives to address interference to or from LMS. Assuming a 500 kHz hopping channel bandwidth, a system using 25 hopping channels, coupled with a reduced transmitter output power, will eliminate potential interference to or from LMS.

SpectraLink submits that if the minimum number of hopping frequencies that spread spectrum devices must use is reduced from 50 to 25, and the maximum authorized transmitter power is reduced by 3 dB to 500 mW, the power spectral density for these spread spectrum devices will remain unchanged.[6/] Further, SpectraLink proposes that these devices be permitted to use non-contiguous hopping frequencies to avoid the subsegments allocated exclusively to wideband multilateration AVM/LMS systems. Because these amendments will reduce the spectral occupancy of this class of spread spectrum devices and avoid spectrum allocated exclusively to the highly sensitive AVM/LMS systems, a substantially higher percentage of deployed and new frequency-hopping devices will be able to operate in the band without interference. Thus, amendment of Section 15.247(a)(1)(i) and (b), as proposed by SpectraLink, would facilitate peaceful coexistence of LMS and deployed frequency-hopping spread spectrum Part 15 devices today. Moreover, amending Section 15.247(a)(1)(i) and (b) now, would facilitate future deployment of Part 15 frequency-hopping spread spectrum devices, without raising the specter of interference with multilateration AVM/LMS in the future.

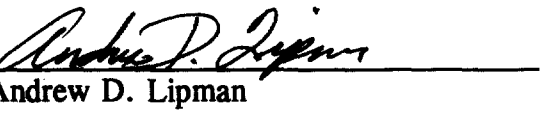
[6/] Spectralink has recently been granted an experimental license to conduct experiments that will demonstrate that frequency hopping spread spectrum devices can share the band with wideband multilateration AVM/LMS devices without interference (*see* Experimental Radio Station Construction Permit and License, File No. 4571-EX-PL-94 (January 12, 1995).

IV. CONCLUSION

For the foregoing reasons, SpectraLink urges the Commission to amend Section 15.247(a)(1)(i) and (b) of the its Rules to permit frequency-hopping spread spectrum devices operating in the 902-928 MHz band to use a minimum of 25 non-contiguous hopping frequencies and operate at a maximum authorized transmitter power of 500 mW.

Respectfully Submitted,

SPECTRALINK CORPORATION

By: 

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SPECTRALINK PROPOSED RULE TEXT

Section 15.247(a)(1)(i) of the Commission's Rules should be amended as follows:

> Frequency hopping systems operating in the 902-928 MHz band shall use at least **25** hopping frequencies. 47 C.F.R. § 15.247(a)(1)(i) (1993).

Section 15.247(b) of the Commission's Rules should be amended as follows:

> The maximum peak output power of the transmitter shall not exceed 1 Watt. **For those frequency hopping systems that use fewer than 50 and at least 25 hopping frequencies, the maximum peak output power shall not exceed 500 mW.**